



Spark Gap

Vol. 35, Issue 3, March 2018 *MARC - Serving Central Indiana Communities for thirty-five years*

On Our MARC:

Only a few more days and spring will be here. March is severe weather preparedness month across the United States. With spring comes the possibility of Storms and severe weather. I hope many of you will be able to attend the Storm Spotter training that is scheduled for Saturday, April 7, 2018. The class will be held at the new Sheriff's Department training center, 1091 Hospital Road, Franklin, IN 46131, starting at 9:00 am and going until 11:00am.

April's speaker will be Bob Jones, KC9NJM. The topic will be weather! He will spend a little time reviewing weather nets, how they work, and how we interface with the statewide net. Bob will also be attending the weather symposium on Saturday, March 17.

I would like to send out a big thanks to Ben Read. Ben scheduled a tour of the National Weather Service. I was unable to attend due to work, but I understand there were about 15 members that did attend. I hope we can get some information from those who attended. Again, thanks Ben!!!

Please mark your calendars for June 9th, 2017. This is the date that we will be attending Strawberry Fest along with the White River Township Fire Dept. This is a great time to get out and promote the hobby and eat some great food. Plus help the Fire Dept out.

Just a reminder that we are in a New Year and it's that time of year to get your dues current. If you haven't paid your dues for the year, please see Marlys at the meeting. Thanks to all of you who have paid your membership for 2018.

See you Saturday and the coffee will be on.

Jacki-KI6QOG

President



Birthdays for the month of March:

KC9VGQ -- Chris Mazzarella

KC9WLR-- Mike Rose

KB9LOT -- Dave Daily

KC9EBL -- Brenda Haler

N9LC -- Steve Brown

W9NMM -- Noel Mortier

Hamvention Announces Award Winners:

Valerie Hotzfeld, NV9L, of Crescent City, Illinois, is the 2018 Hamvention "Amateur of the Year." The Hamvention Awards Committee -- chaired by Michael Kalter, W8CI, and Frank Beaford, WS8B -- this week announced its 2018 award recipients for Club of the Year, Technical Achievement, and Special Achievement.

"I am extremely honored to even be nominated for Amateur of the Year, let alone to win this award," Hotzfeld told ARRL. "I would like to thank the Hamvention Awards Committee. Their decision must have been a tough one, as I am certain the other nominees have done an outstanding job representing this hobby too. I would also like to thank those who mentored me throughout my different learning phases of this hobby. Not only has Amateur Radio been a life-changing experience for me, there are so many helpful hams in this hobby that it just feels natural to give back."

First licensed in 2006, Hotzfeld has been very active in local Amateur Radio clubs and in ARES. Once she "discovered" HF, she became obsessed with DXing and contesting. In the past few years, she has enjoyed inviting new hams to her station to DX or contest. She has been the pilot or lead pilot for four major DXpeditions. Hotzfeld also is a co-host of the Ham Nation webcast and has created how-to videos on YouTube for the ham radio community.

In 2017, Hotzfeld became engaged in public service, first traveling to Texas in the wake of Hurricane Harvey to help rescue small animals. She subsequently was deployed to Puerto Rico with the American Red Cross for 3 weeks as part of an Amateur Radio volunteer contingent, facilitating critical communications after Hurricane Maria.

Club of the Year

The Portage County Amateur Radio Service (PCARS <http://www.portcars.org/>) of Ravenna, Ohio, is Hamvention's 2018 Club of the Year. PCARS was established in November 2005, and it is an ARRL-Affiliated Special Service Club. PCARS members average more than 40 hours of club activities each month, including special interest groups, license training, contesting run from the club site (K8BF), and club social events.

"Our members cover a wide range of interests that allow us to support public safety organizations, student outreach programs, and activities focused on growing our hobby," the club told the Hamvention Awards Committee. "We love to share our experiences and have a requirement that our events be filled with a lot of fun. Members have joined PCARS because of all the activities and fun we have."

The club donated more than \$6,000 in time and money to the community last year. It has created its own contests and events, including the annual Freeze Your Acorns Off in February and Ohio State Parks on the Air, which was used as a model for ARRL's year-long National Parks on the Air event in 2016.

PCARS sponsors several "Build Days" each year, with projects including home-built transceivers, antennas, and digital equipment to allow members to expand their horizons into new areas of Amateur Radio. A monthly "Get on the Air Day" lets members and non-members use club site equipment to learn about HF and new operating modes. "It is all about building our hobby, helping our community, building our skills, and, most of all, having fun," PCARS said.

Technical Achievement Award

Chip Cohen, W1YW, of Belmont, Massachusetts, has received the Hamvention 2018 Technical Achievement Award. Licensed for 52 years and bitten by the antenna bug, Cohen became a radio astronomer and astrophysicist, working at Arecibo, the National Radio Astronomy Observatory (NRAO), the Very Large Array (VLA), and others. While a professor at Boston University, Cohen connected fractal geometry with antennas, pioneering a paradigm shift in the design of fractal antennas and what they make possible. The holder of 41 US patents, Cohen is known for inventing the invisibility cloak using fractal antenna techniques.

Starting 30 years ago with simple flea market treasures, W1YW bootstrapped fractal antennas with modest gear and employed ham radio to report on the success of his new technology. He started Fractal Antenna Systems, Inc. with WA1ZWT (SK) in 1995, and is presently its CEO.

Cohen is a DXCC Top of the Honor Roll DXer and a strong advocate for technical "innovation culture" through Amateur Radio. He is a Life Member of ARRL and a Fellow of the Radio Club of America, where he has served as vice president and director.

Special Achievement Award

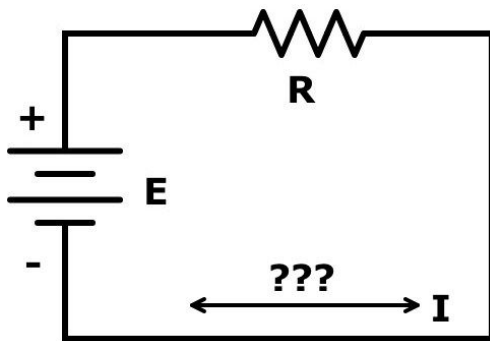
Heriberto Perez, KK4DCX; Victor Torres, WP4SD, and Emilio Ortiz Jr., WP4KEY, are Hamvention's 2018 Special Achievement Award winners. In the wake of Hurricane Maria, which devastated Puerto Rico last September, Perez mobilized his radio equipment to Radio Sol in San Germán, the local public broadcasting station, accompanied by Torres and Ortiz. The team handled health-and-welfare traffic to thousands of families across the continental US. Thanks to the support of more than 45 radio amateurs across the US, more than 4,000 messages were delivered via telephone to anxious families.

"We would like to thank everyone who nominated a candidate," the committee said in announcing the award recipients. "The process is always difficult." A formal awards presentation will take place this May at Hamvention 2018 in Xenia, Ohio.



Which way does current really flow?

By Dan Romanchik, KB6NU



I was recently taken to task by one of my blog readers regarding my description of current flow in my *No Nonsense Technician Class License Study Guide*. He wrote:

You casually say that current flows from Positive to Negative (with cool accompanying directional arrows), without any accompanying qualifying statement. Over the years I have looked at ALL the views on the subject. Positive to Negative is NOT what I was taught 48 years ago, and I have never seen a good reason to change my view.

In a subsequent email, he pointed me to a Nuts ‘n Volts article, [“Which Way Does Current Really Flow?”](#) and asked my opinion. In the article, the author, who is a ham by the way, does a good job of explaining the various types of current flow.

I agree that in electronic circuits electrons flow from negative to positive, but it really doesn’t matter. I agree with one the article's commenters who says,

This is a silly argument. It’s like comparing apples and oranges and challenging people to take sides.

Electron flow is not current flow. Electron flow is easy to understand, an actual physical property, and a real help in understanding vacuum tube operation. But it falls apart when one needs to understand complex electronic systems.

[Conventional] current flow is a mathematical abstraction. It is defined as a net flow of positive charge, irrespective of the polarity of the physical charge carriers — whether electrons, holes, positive or negative ions, or whatever.

When looking at any circuit containing a resistance with a voltage across it, conventional current through that resistor says that the voltage drop occurs as the current through it meets resistance. On the other hand, in negative (electron) flow, a voltage INCREASE will correspond to the ‘current’ flow through it, clearly violating physical laws. Conventional current flow is consistent with the laws of physics and those of other engineering disciplines.

You are correct that engineers, professors and scientists use conventional current flow. That is not because they are too obtuse to understand electron flow; I assure you they fully understand it. It is because in their world they have to solve more general problems involving complex math and science, and, again, conventional current flow is consistent with physical laws.

It is unfortunate that electron flow and current flow are so often confused. They both have their place.

After reading that article, I thought I’d see what the ARRL Handbook has to say about current. In the 1963 edition, they don’t mention electron flow at all. They have one diagram showing the direction of current flow in both series and parallel circuits, but the voltage source has no polarity. It’s simply labelled “Source of E.M.F.” Diagrams giving practical examples of series and parallel circuits do include a battery, and if the reader were to mash up the two diagrams, they would conclude that current flows from the positive terminal to the negative terminal.

The most recent edition of the Handbook that I have is the 2005 edition (it might be time to get another copy!). It says,

Electrons move from the negative to the positive side of the voltage, or EMF, source. Conventional current has the opposite direction, from positive to negative. This comes from an arbitrary decision made

by Benjamin Franklin in the 18th century. The conventional current direction is important in establishing the proper polarity sign for many electronics calculations. Conventional current is used in much of the technical literature. The arrows in schematic symbols point in the direction of conventional current, for example.

Having said all that, I really don't see that there's much of a controversy here. I did learn to think of current as conventional current in college, although it was mentioned that electrons actually flow in the opposite direction. Using the concept of conventional current has never seemed to hold me back. I've been able to design circuits and repair electronic equipment thinking that current flows from positive to negative.

Although it's a departure from my "no nonsense" style, I am thinking of including a sidebar, similar to the paragraph above from the 2005 Handbook explaining the two ways of looking at current flow. What do you think?

When he's not trying to figure out which way current flows, Dan blogs about amateur radio at KB6NU.Com, teaches ham radio classes, and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him at cwgeek@kb6nu.com.



Keep The Faith, Having Fun With No Sunspots

I was motivated to write this today after looking at the solar flux number which sat at 67. I don't know if I've ever seen the flux this low. I think I've seen 68 a lot, but not 67. Truly, things must be really bad.

As it would happen today, with the flux at 67, I did my 258th SOTA activation on a summit near Santa Fe, NM that has no name, but goes by it's elevation, 8409. There are beautiful views in every direction, from the summit of 8409, and I enjoyed them immensely. With me, on my trek up the mountain, was my KX2, a 21ft. collapsible pole to support a 29 ft. piece of wire through an 81 to 1 transformer. I feed the antenna about a foot above the ground and run the wire up the pole in an inverted L configuration. The pole was propped up among the branches of a pine tree and I tied off the antenna to a close-by pine branch. I had the power set to 5 watts and tuned the wire with the KX2. I operated CW using the Elecraft plug-in paddle and I logged with a golf pencil on a, write in the rain, index card. The temperature was a crisp 39 degrees, but the sun was shining and not wisp of a breeze. It was a good day to be on the mountain top.

I was on the air from 1642z - 1722z. I operated on 40, 30m, 20m and 17m and completed 40 QSO's in the 40 minutes that I was on the air from 8409. Also, with the flux at 67, I managed to work two EU stations, ON and EA. I heard a 9A calling me but we couldn't complete the contact. So, 40 QSO's, coast to coast in the US and 2 DX QSO's from EU was my catch for the day. Not bad for a short QRP/portable outing. Keep in mind that's with the flux at 67. I'm glad I didn't look at the numbers before I left or I might have been a bit discouraged and perhaps wouldn't have gone out at all. I would have missed the beautiful views, the warming sunshine and a QSO a minute QRP operation. I wouldn't have worked EU with 5 watts and a wire. I would have had to put off my 258th SOTA activation for another day.

The moral of this story is simple, don't look at the numbers. In fact I would recommend that you ignore them. There is plenty of fun to be had keying up your radio even when conditions, or at least the numbers, are this bad.

Keep the Faith. Go call CQ. I was glad I did.

[Mike Crownover, AD5A](#), is a regular contributor to *AmateurRadio.com* and writes from Texas, USA. Contact him at ad5a@gvtc.com.

Swedish Telecoms Regulator Considering Charging Hams a Fee to Run More Than 200 Watts:

Sweden's Post and Telecom Authority (PTS) is considering lowering the maximum transmitter output power for general Amateur Radio stations to 200 W PEP. Under a set of wide-ranging proposed regulatory changes affecting many radio services, radio amateurs wishing to run higher power would have to apply for a license and pay an annual fee of about \$33.

Amateur Radio licenses were eliminated in Sweden in 2004, and Amateur Radio in Sweden is "permission free," but prospective radio amateurs still must pass an examination, typically arranged by Sweden's International Amateur Radio Union (IARU) member-society in Sweden, SSA <http://www.ssa.se/>. A certificate and a call sign, valid for life, are issued without any future fees. The maximum permitted power on most HF bands is 1 kW; that power level would not necessarily be guaranteed under an Amateur Radio license, and conditions could apply.

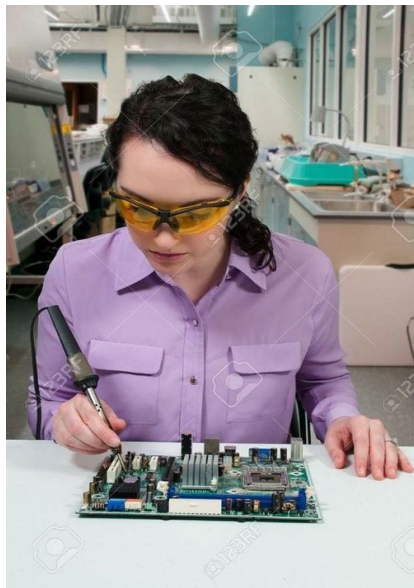
The PTS's rationale is that requiring a license for radio amateurs who want to run more than 200 W will make it easier to trace any interference that those transmitters may cause.

"The matter is widely discussed in Sweden," Henryk Kotowski, SM0JHF, told ARRL, "since there are quite a few opponents to permission-free operation, resulting -- in their eyes -- in degradation of quality and discipline on the air."

SSA is planning to comment on the proposal by the March 30 deadline.

The ARRL Letter March 2018

Ed. note: The Swedish seem to do things much differently than here in the US.



Have you tried the cold soldering technique?

March 18-24, 2018 is Severe Weather Preparedness Week in Indiana

The National Weather Service, in conjunction with the [Indiana State Police](#), the [Indiana Department of Homeland Security](#), the [Indiana Department of Education](#), the [Indiana Broadcasters Association](#), the [American Red Cross](#), and [Amateur Radio Operators](#) will conduct a statewide test of communication systems on Tuesday, March 20 at 10:15 AM.

Important - while the drill will be sent using live TOR EAS coding (Tornado Warning), **it is only a test**, and will be postponed to Wednesday, March 21 if weather conditions warrant.

As part of NWS efforts to build a [Weather Ready Nation](#), the goal of Severe Weather Preparedness Week is to better educate people about the hazards of severe thunderstorms and tornadoes, and to help everyone be prepared when severe weather occurs. Each day will focus on a different topic:

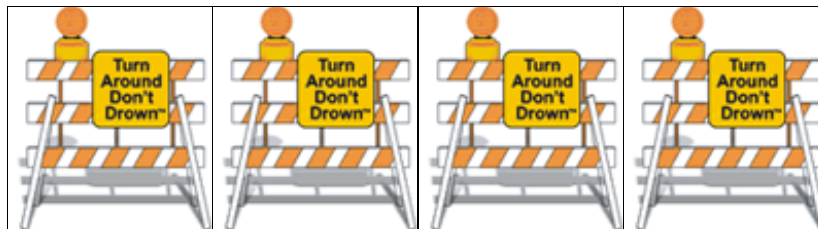
- Sunday:** [Kick-Off](#): Discuss partners' roles in severe weather
- Monday:** [Severe Weather Outlooks and Watches](#): Partners' roles at the outlook and watch stages of an event
- Tuesday:** [Warnings](#): Taking action when warnings are issued (**Statewide Tornado Drill Day**)
- Wednesday:** [Response](#): Partners' roles in responding to disasters (real-time response)
- Thursday:** [Recovery](#): Partners' roles in the recovery process (days/weeks/months after disaster)
- Friday:** [Weather Ready Nation](#): How we are working to build a Weather Ready Nation
- Saturday:** [Wrap-Up](#): Importance of preparedness and action during threatening hazards

Please read our [Preparedness Week brochure](#) for details. Click [here](#) (6.6MB pdf) for a kids' activity booklet from the [Indiana Department of Homeland Security](#).

What should ***you*** do at each step as severe weather threatens - outlook (hours to days in advance), watch (minutes to hours in advance), warning (event is threatening now)? [Think READY \(outlook\), SET \(watch\), GO \(warning\)!](#)

To help you be ready, find out how to get [one tap access to the National Weather Service on your smartphone](#)!

This week, we also remind Hoosiers to be aware of the underappreciated but deadly dangers of flooding. Click the "Turn Around, Don't Drown!" barriers below to learn more. Click the flood safety image to see a Turn Around, Don't Drown PSA on YouTube.



******* Johnson County test will be Tuesday March 20th at 1015 (EDT) and 1915 (EDT) on the WA9RDF repeater 146.835 – (PI 151.4)**

Source: NWS Indianapolis March 2018

UP – COMING ACTIVITIES AND HAMFESTS

03/17/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

04/21/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

05/04/2018 – 500 Festival Indianapolis Mini Marathon, Indianapolis

05/18 – 19 - 20/2018 – Hamvention 2018 Green County Ohio Fairgrounds and Expo Center

05/19/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

06/09/2018 – WRTFD Strawberry Festival

06/16/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

07/21/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

08/18/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

09/15/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

10/20/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

11/17/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.

12/15/2018 – 0800 MARC Monthly meeting at the Johnson County REMC.

Johnson County REMC 750 International Drive Franklin, IN 46131.



RFinder WW Repeater Directory

<http://subscribe.rfinder.net>

MID-SATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the **THIRD SATURDAY** of each month at the Johnson County REMC 750 International Drive Franklin, IN 46131.

See our website, www.midstatehams.org, for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a *HAM* to attend our meetings or a member of the club.

WA9RDF Repeater:

146.835/
146.235 MHz
(151.4 Hz PL Tone)

Club Officers:

President: Jacki Frederick – KI6QOG
Vice President: Ron Schuetz -K9THR
Secretary: Rhonda Curtis – WS9H
Treasurer: Marlys Barr – KD9BHM
Repeater Trustee - Chris Frederick – KQ9Y

WA9RDF Repeater:

443.525/
448.525 MHz
(151.4 Hz PL Tone)

Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS
146.835/146.235 MHz (151.4 Hz PL Tone)

The Official Newsletter of the Mid-State Amateur Radio Club

P.O. Box 836
Franklin, Indiana
46131

Spark Gap Editor: Robert LaGrange N9SIU

Please send your articles to my email: n9siu@yahoo.com no later than the 3rd of the month



Special thanks to Johnson County REMC for the use of their community room for meetings and testing.